Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

ling in the soil and partly by damping off. A large proportion of the plants which are attacked after breaking through the ground recover by subsequent healing of the injured shins. After showing that the fungus is dependent upon oxygen for growth, the writer states his belief that the fungus attacks the plants at the surface of the ground because here only there exists a zone with sufficient oxygen and yet not too dry for the growth.

It may be mentioned that the sore-shin fungus of the United States is believed by DUGGAR and STEWART[25] to be Rhizoctonia. BALL, however, failed to find the typical sclerotia of this genus in the Egyptian form, so that it is possible that the two forms are not identical, unless the sclerotia have been been overlooked.—H. HASSELBRING.

Electroculture.—GASSNER, before he was called to the University of Montevideo, had begun some investigations on the effect of electric currents, constant and alternating, which, though incomplete, had some interesting results.[26] The constant current in general proved injurious (*cf.* his results and PLOWMAN'S on galvanotropism noted in this journal). The alternating current, when the alternations were rapid enough, was not injurious because it did not act at all; it was not found advantageous, as LÖWENHERZ reports.[27] It does kill grubs and worms in the soil when not hurtful to plants and may thus be useful practically. With induced currents from a frictional machine, potted barley grew better when electrified for 13–14 hours daily from needle-points above the plants, which accords with the earlier results of LEMSTRÖM (1890) and CHODAT (1892). One notable fact was the threefold evaporation from the electrified plants, as compared with the controls. Even greater differences, 6:1, appeared when porcelain dishes filled with water were substituted for the pots.—C. R. B.

Palisade cells.—RAUNKIAER decides in favor of STAHL'S view, that palisade cells owe their form to light, as against ARESCHOUG'S that transpiration is the determining cause, from his studies upon the palisade of *Scirpus lacustris.*[28] The leaves of plants growing somewhat apart from the clump show equally well-developed palisade cells in the leaf above water and to a depth of 20^{cm}. From this point to a depth of 50^{cm} the length of the palisade cells gradually diminishes. In similar plants growing crowded and therefore shaded, no palisade cells are distinguishable in the submerged parts, nor in the aerial region up to a height of 30–40^{cm}, where they commence to appear. In this case there is clear evidence that the external factor, light, calls forth this differentiation. In other plants it my have become hereditary, i. e., due to internal causes. RAUNKIAER finds in certain plants also that direction of light determines the orientation of the palisade cells; in the great majority, however, their orientation is established independent of this factor.—C. R. B.

---

[25] The sterile fungus Rhizoctonia. Cornell Univ. Agr. Exp. Sta. and N. Y. Agr. Exp. Sta. Bull. 186. 1901.

[26] GASSNER, G., Zur Frage der Elektrokultur. Ber. Deutsch. Bot. Gesells. **25**:26–38. 1907.

[27] LÖWENHERZ, Versuche über Elektrokultur. Zeit. Pfl.-krankh. **15**:137 ff. 1905.

[28] RAUNKIÆR, C., Nogle Iagttagelser og Forsøg over Aarsagerne til Palissadecellernes Form og Stilling. (Sur les causes qui déterminent la forme at l'orientation des cellules palissades.) Bot. Tidsskrift **27**:293–311. 1906.

Inheritance and gynodioecism.—CORRENS[29] makes a third report on the inheritance of sex in gynodioecious plants, the species dealt with being *Satureia hortensis* and *Silene inflata*, previously reported on, and in addition, *Silene dichotoma* and *Plantago lanceolata.* All of these species confirm the two laws previously derived by the author, namely, that in gynodioecious plants each sex-form produces gametes which have the tendency to produce the same sex-form, and that the phylogenetically newer unisexual form dominates more or less completely the older bisexual form. There seems to be a third class in the case of *Plantago lanceolata*, characterized by an intermediate condition. These are described as gynomonoecious or as stunted bisexual. The offspring of these contained 28–32 per cent. ♀, as compared with 0–3 per cent. among the offspring of normal bisexual parents, and 71–96 per cent. among the progeny of fully pistillate individuals.—G. H. SHULL.

Commercial forage seeds.—The adulteration of commercial forage seeds has become a question of great importance in the western agricultural regions, and reliable, easily applied distinctions between the adulterants and the genuine seed are being sought for energetically at the Agricultural Experiment Stations. Two recent bulletins from Kansas deal with two of the most important forage crops, namely alfalfa[30] and blue grass.[31] To recognize without fail the commercial seed of alfalfa is to protect one of the largest financial interests of the region. In the case of the distinction between the grains of *Poa pratensis* and *Poa compressa*, it is interesting to note that these observers have discovered what seems to be an unfailing character in the toothing of the palet, which agrostologists have overlooked.—J. M. C.

Progress of accretion during growth.—As stated by HEDLUND,[32] it is important to ascertain the amount or rather the rate of accretion correlated with internal processes of the protoplasm during growth. This author has made a quantitative study which is certainly a step in advance. He finds that a single cell (alga) grows more rapidly when free than when in contact with a neighbor. Growth declines for a period before division and remains slow while the protoplasm is

---

[29] CORRENS, C., Die Vererbung der Geschlechtsformen bei den gynodiöcischen Pflanzen. Ber. Deutsch. Bot. Gesells. 24:459–474. 1906.

[30] ROBERTS, H. F., and FREEMAN, G. F., Alfalfa seed; its adulterants, substitutes, and impurities, and their detection. Kans. Agric. Coll. Bull. 133. 1906.

[31] ———, Commercial seeds of brome grass and of English and Kentucky blue grasses; adulterants and substitutes and their detection. Kans. Agric. Coll. Bull. 141. 1907.

[32] HEDLUND, T., Ueber den Zuwachsverlauf bei kugeligen Algen während des Wachstums. Bot. Stud. tillägn. F. R. KJELLMAN 35–54. *pls. 4.* Upsala, 1906.